Georgia alternative energy plant to be fueled by wood & poultry waste

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Combine four parts leftover wood scraps with one part chicken litter, add equipment and chemistry, and you have one of the most innovative sources of alternative energy in the nation.

That's the idea behind Plant Carl, which will convert poultry litter and wood waste into electricity. Construction on Plant Carl is scheduled to begin this summer, with the help of a $28 million loan from USDA Rural Development's Utilities Program office to Earth Resources Inc., located near Carnesville, Ga. Designed to generate clean energy by converting poultry litter and woody biomass into electricity, the plant is viewed as a potential state-of-the art model that can be duplicated in other areas.

Plant Carl is named in memory of Carl Dinsmore of Dinsmore Grading, a site development company that has worked with Georgia Power and Atlanta Gas Light on projects in North and South Carolina and Alabama.

"We want to be part of Plant Carl's exciting and unique concept," says Jim Andrew, administrator of USDA's Rural Development Utilities Programs, which is providing the loan for the new facility.

Andrew says funding more renewable energy projects is a major goal of USDA. "The impact of climate change, the price of oil and the cost of building new plants to meet the growing demands for electricity mean that alternative sources of energy show great promise. If these new sources of power can help meet our power needs while making contributions to clean up the environment, we want to see these

"There is plenty of fuel for this plant, with more than 3,600 poultry houses within a 20-mile radius of the site. Plant Carl will require litter from only one-half of those," says Michael Whiteside, president of Green Power EMC and CEO of Cowetta-Fayette EMC. Photo courtesy Cowetta Fayette EMC

operations expand to other places."

The fact that Plant Carl is generating interest is in part because it deviates from traditional sources of power generation. It supports President George W. Bush's renewable energy initiatives, meeting new policies of finding alternatives to fossil fuels.

Georgia EMCs support project

The support of Georgia's rural electric cooperatives and the growth of its poultry industry have also been key factors that have helped Plant Carl move from a pilot project five years ago to where it is today.

Poultry wastes will be one of the primary fuels used in Plant Carl. USDA Photo

Michael Whiteside is president of Georgia's first renewable energy program, Green Power Electric Membership Corporation (EMC), and president and CEO of Cowetta-Fayette EMC, an electric cooperative utility that has been serving members since 1945, and one of the participants in Green Power. Georgia's rural electric cooperative utilities are interested in Plant Carl.

"Green Power EMC supports development of renewables," Whiteside says. "Because forecasts anticipate that our energy requirements will double over the next 12 years, renewables are expected to play a small part in our energy portfolio. The good news is that there is plenty of fuel for this plant, with over 3,600 poultry houses within a 20-mile radius of the site. Plant Carl will require litter from only one-half of those. Hopefully, we will be a partner in replicating similar plants across Georgia."

Besides supplying 20 megawatts of electrical power, Plant Carl will mitigate the impact of poultry farms on the environment. "Plant Carl is a good addition to Green Power," Whiteside says.

Billy Jones, operations manager for Plant Carl, emphasized that extensive environmental review was among the requirements he and plant owner Charles "Sonny" Dinsmore (Carl's son) had to meet to qualify for the loan from USDA. Other requirements included private equity capital to support the operations, use of commercial technologies and a viable business model to support the servicing of the loan.

Meeting growing demand

Georgia EMCs became aware of the pilot project and liked what it saw, according to Jones. "They knew energy was there, and they knew they would need to act to meet growing demands. More homes are being built in Georgia. Rural electric cooperatives wanted to entertain the use of renewables, so they will purchase power for 20 years." Not only did the rural electric cooperative utilities show strong interest in renewable energy, but recommended federal financing, Jones notes.

"It was through the EMCs that we learned about USDA Rural Development's long-term financing process," says Jones. "Have you ever tried to get a loan for nearly $30 million? It's breathtaking." Jones credits Rural Development Utilities Programs expertise with "guiding us through the detailed process."

Plant operations will benefit the poultry industry. "This year, Georgia is experiencing the longest drought ever recorded," Jones says. "Under these conditions, chicken litter will burn land. Several years ago we had too much rain, and the runoff from the rain presents other environmental challenges." Use of woody biomass will keep additional debris from moving to Georgia's landfills.

Electrical plants in Georgia (above) and Kansas are being disassembled and moved to Carnesville, Ga., where the parts will be used to build Plant Carl. Photo by Billy Jones

Chicken production is a $17 billion industry, currently growing at 3 percent. This growth explains the reaction from the community to Plant Carl. "We have the support of the community — this is chicken country," Jones says. "About 90 percent of the people in this area are in the chicken business. They're looking at the long term. Plant Carl is an advantage." ■